

```

<?xml version="1.0"?>
<!-- qship.xml Version: 0.8 -->
<!-- Purpose: test file for shipnote.dtd -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE shipment.notice SYSTEM "shipnote.dtd">
<shipment.notice>
<meta>
  <urn>URN:cbl:foo/bar/baz/boff
</urn>
</meta>
<shipment.coordinates.set>
<shipment.coordinates>
<packlist>
<retail.catalog.item.shipped>
  <catalog.entry.pointer>
    <xll.locator urllink="http://catentry.xml">Catalog
      Entry Pointer
    </xll.locator>
  </catalog.entry.pointer>
  <catalog.entry.id>4321
  </catalog.entry.id>
  <quantity.shipped>one dozen
  </quantity.shipped>
</retail.catalog.item.shipped>
</packlist>
<ship.date>
<date.and.time>199710121345
</date.and.time>
</ship.date>
<ship.from.address>
<address.set>
  <physical.address>
    <pobox>123
    </pobox>
    <location.in.street>789
    </location.in.street>
    <street>Main St.
    </street>
    <city>Anytown
    </city>
    <postcode>43210
    </postcode>
    <country>US</country>
  </physical.address>
  <telephone>
    <telephone.number>123-456-7890
    </telephone.number>
  </telephone>
  <fax>123-456-7889
  </fax>
  <email>foo@bar.com
  </email>
</address.set>
</ship.from.address>

```

```

<ship.to.address>
<address.set>
  <physical.address>
    <pobox>123
    </pobox>
    <location.in.street>789
    </location.in.street>
    <street>Main St.
    </street>
    <city>Anytown
    </city>
    <postcode>43210
    </postcode>
    <country>US</country>
  </physical.address>
  <telephone>
    <telephone.number>123-456-7890
    </telephone.number>
  </telephone>
  <fax>123-456-7889
  </fax>
  <email>foo@bar.com
  </email>
</address.set>
</ship.to.address>
  <shipment.method>Carter's Careful Cartage
  </shipment.method>
  <shipment.markings>Do Not Drop
  </shipment.markings>
  <shipment.acceptance>
    <destination/>
  </shipment.acceptance>
  <delivery.date>
    <date.calendar>24.02.98
    </date.calendar>
  </delivery.date>
</shipment.coordinates>
</shipment.coordinates.set>
</shipment.notice>

```

```

<?xml version="1.0"?>
<!-- qshop.xml Version: 0.8 -->
<!-- Purpose: test file for shopcart.dtd -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE shopping.cart SYSTEM "shopcart.dtd">
<shopping.cart>
<meta>
  <urn>URN:cbl:foo/bar/baz/boff
</urn>
</meta>
  <session.id assigned.by.party="vendor">FRT876
    </session.id>
<shopping.cart.operator.pointer>
<xll.locator urllink="http://foo.bar.com/baz">foo
</xll.locator>
</shopping.cart.operator.pointer>
<shopping.cart.user.pointer>
<xll.locator urllink="http://boo.far.com/jaz">goo
</xll.locator>
</shopping.cart.user.pointer>
<shopping.cart.item>
<retail.catalog.item.ordered>
  <catalog.entry.pointer>
    <xll.locator urllink="http://catentry.xml">Catalog
      Entry Pointer
    </xll.locator>
  </catalog.entry.pointer>
  <catalog.entry.id>4321
  </catalog.entry.id>
  <quantity.ordered>one dozen
  </quantity.ordered>
</retail.catalog.item.ordered>
<charge.group>
  <base.charge>
    <payment.group>
      <monetary.payment currency.code="USD">10
    </monetary.payment>
    </payment.group>
  </base.charge>
</charge.group>
</shopping.cart.item>
</shopping.cart>

```

```

<?xml version="1.0"?>
<!-- qtaxo.xml Version: 0.2 -->
<!-- Purpose: test file for taxonomy.dtd -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE taxon SYSTEM "taxonomy.dtd">
<taxon>
<taxon.name>Ingram Micro Taxonomy of Computer Goods
</taxon.name>
<taxon.id>ingram:root
</taxon.id>
<taxon.info>Everything Ingram Micro sells
</taxon.info>
  <taxon>
<taxon.name>Computer Systems
</taxon.name>
<taxon.id>ingram:00
</taxon.id>
<taxon.info>Computers and some components
</taxon.info>
  <taxon>
<taxon.name>Desktop Computers
</taxon.name>
<taxon.id>ingram:00.01
</taxon.id>
<taxon.info>Stub for first subdivision
</taxon.info>
  <taxon>
<taxon.name>Tower Computers
</taxon.name>
<taxon.id>ingram:00.03
</taxon.id>
<taxon.info>Stub for second subdivision, all other subdivisions
  omitted save for no. 11
</taxon.info>
  <taxon>
<taxon.name>Portable Computer, Memory & Accessories
</taxon.name>
<taxon.id>ingram:00.11
</taxon.id>
<taxon.info>Laptops, etc., not further categorized in this
  taxonomy
</taxon.info>
</taxon>
</taxon>
</taxon>

```

```

<
!-- response.dtd Version: 0.8 -->
<!-- Purpose: define response to inforego.dtd -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ELEMENT response (meta?, input.pointer,
    (error.response | success.response | delay.response)?,
    record.pointer*)>
<!ATTLIST response
    %common.attrib;
>

<!ELEMENT input.pointer (%xll.or.urn;)>
<!ATTLIST input.pointer
    %common.attrib;
    %xll.exlink.attrib;
    cblpointer CDATA #FIXED "content"
    target.dtd CDATA #FIXED "infodesc.dtd"
>

<!ELEMENT error.response EMPTY>
<!ATTLIST error.response
    %common.attrib;
    type (unspecified | unauthorized | returntype.mismatch)
        #REQUIRED
>

<!ELEMENT success.response EMPTY>
<!ATTLIST success.response
    %common.attrib;
>

<!ELEMENT delay.response (date.and.time | duration)>
<!ATTLIST delay.response
    %common.attrib;
>

<!ELEMENT record.pointer (%xll.or.urn;)>
<!ATTLIST record.pointer
    %common.attrib;
    %xll.exlink.attrib;
    cblpointer CDATA #FIXED "content"
>

```

```

<!-- rfq.dtd Version: 0.8 -->
<!-- Purpose:  define basic Request for Quote -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 199 CNgrou, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ENTITY % charge SYSTEM "charge.mod">
%charge;

<!ENTITY % pay SYSTEM "pay.mod">
%pay;

<!ENTITY % transact SYSTEM "transact.mod">
%transact;

<!ENTITY % pointers SYSTEM "pointers.mod">
%pointers;

<!ELEMENT request.for.quote (meta?, quote.requestor.pointer,
    desideratum+)>
<!ATTLIST request.for.quote
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT desideratum (catalog.entry.pointer, catalog.entry.id,
    quantity.desired?, charge.range?)>
<!ATTLIST desideratum
    %common.attrib;
    %ttl.attrib;
>

```

```

<!-- schedule.dtd  Version:  0.22 -->
<!-- Purpose:  describe schedules -->
<!-- Terry Allen  15 Oct 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ENTITY % address SYSTEM "addresso.mod">
%address;

<!ELEMENT schedule (meta?, event+)>
<!ATTLIST schedule
    %common.attrib;
>

<!ELEMENT event (event.name, event.type, event.start, event.end?,
    event.duration?, recurs?, arrive.before, charge.group?, availability?,
    location?, payload?, text.description?)>
<!ATTLIST event
    %common.attrib;
>

<!ELEMENT event.name (%multilingual;)*>
<!ATTLIST event.name
    %common.attrib;
>

<!ELEMENT event.type (%multilingual;)*>
<!ATTLIST event.type
    %common.attrib;
>

<!ELEMENT event.start (date|date.and.time)>
<!ATTLIST event.start
    %common.attrib;
>

<!ELEMENT event.end (date|date.and.time)>
<!ATTLIST event.end
    %common.attrib;
>

<!ELEMENT event.duration (duration)>
<!ATTLIST event.duration
    %common.attrib;
>

<!ELEMENT recurs (%multilingual;)*>
<!ATTLIST recurs
    %common.attrib;
>

<!ELEMENT arrive.before (duration)>
<!ATTLIST arrive.before
    %common.attrib;

```

```

>

<!ELEMENT availability (%multilingual;)*>
<!ATTLIST availability
    %common.attrib;
>

<!ELEMENT location (at | (depart, arrive))>
<!ATTLIST location
    %common.attrib;
>

<!ELEMENT at (address.set)>
<!ATTLIST at
    %common.attrib;
>

<!ELEMENT depart (address.set)>
<!ATTLIST depart
    %common.attrib;
>

<!ELEMENT arrive (address.set)>
<!ATTLIST arrive
    %common.attrib;
>

<!ELEMENT payload (%multilingual;)*>
<!ATTLIST payload
    %common.attrib;
>

```



```

<!-- servprim.mod   Version:  0.8  -->
<!-- Purpose:   provide primitives for service descriptions -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ELEMENT service (service.name, service.type,
    service.function.sequence+, service.location.pointer*,
    contact*)>
<!ATTLIST service
    %common.attrib;
>

<!ELEMENT service.name (#PCDATA)>
<!ATTLIST service.name
    %common.attrib;
>

<!ELEMENT service.type EMPTY>
<!ATTLIST service.type
    service.type.name (directory | aggregator | ordering.service
    | fulfillment.service | catalog | cbl.registry) #REQUIRED
    %common.attrib;
>

<!ELEMENT service.function.sequence (service.function+)>
<!ATTLIST service.function.sequence
    %common.attrib;
>

<!ELEMENT service.function (doctype+, service.location*)>
<!ATTLIST service.function
    %common.attrib;
>

<!ELEMENT doctype (#PCDATA)>
<!ATTLIST doctype
    %common.attrib;
    %party.attrib;
    %from.party.attrib;
    %to.party.attrib;
>

<!ELEMENT action EMPTY>
<!ATTLIST action
    verb (register | retrieve | query | unregister | notarize
    | act.upon ) #REQUIRED
>

<!ELEMENT service.location.pointer (%xll.or.urn;)>
<!ATTLIST service.location.pointer
    %common.attrib;
    cblpointer CDATA    #FIXED    "outside"
>

<!ELEMENT service.set (service+)>
<!ATTLIST service.set

```

>

```

<!-- shipment.mod   Version:  0.8 -->
<!-- Purpose:  group shipment primitives -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!--ELEMENT shipment.method (%multilingual;)*>
<!--ATTLIST shipment.method
      %common.attrib;
>

<!--ELEMENT shipment.markings (%multilingual;)*>
<!--ATTLIST shipment.markings
      %common.attrib;
>

<!--ELEMENT shipment.acceptance (embarkation | destination)>
<!--ATTLIST shipment.acceptance
      %common.attrib;
>

<!--ELEMENT embarkation EMPTY>
<!--ATTLIST embarkation
      %common.attrib;
>

<!--ELEMENT destination EMPTY>
<!--ATTLIST destination
      %common.attrib;
>

<!--ELEMENT delivery.date (date | date.calendar | date.ordinal
      | date.and.time)>
<!--ATTLIST delivery.date
      %common.attrib;
>

<!--ELEMENT paid.by EMPTY>
<!--ATTLIST paid.by
      %common.attrib;
      %party.attrib;
>

<!--ELEMENT ship.date (date.and.time)>
<!--ATTLIST ship.date
      %common.attrib;
>

<!--ELEMENT packlist (retail.catalog.item.shipped+)>
<!--ATTLIST packlist
      %common.attrib;
>

<!--ELEMENT shipment.coordinates.set (shipment.coordinates+)>
<!--ATTLIST shipment.coordinates.set
      %common.attrib;
>

```

```
<!ELEMENT shipment.coordinates (packlist?, ship.date?, ship.from.address?,
    ship.to.address?, shipment.method?, shipment.markings?,
    shipment.acceptance?, delivery.date?, paid.by?,
    interim.location?)>
<!ATTLIST shipment.coordinates
    %common.attrib;
>

<!ELEMENT interim.location (#PCDATA)>
<!ATTLIST interim.location
    %common.attrib;
    %ttl.attrib;
>
```

```
<!-- shipnote.dtd  Version:  0.8 -->
<!-- Purpose:  describe a shipping notice -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ENTITY % charge SYSTEM "charge.mod">
%charge;

<!ENTITY % shipment SYSTEM "shipment.mod">
%shipment;

<!ENTITY % transact SYSTEM "transact.mod">
%transact;

<!ENTITY % address SYSTEM "addresso.mod">
%address;

<!ENTITY % pointers SYSTEM "pointers.mod">
%pointers;

<!ELEMENT shipment.notice (meta?, shipment.coordinates.set)>
<!-- ATTLIST shipment.notice
      %common.attrib;
-->
```

```

<!-- shopcart.dtd Version: 0.8 -->
<!-- Purpose: describe a shopping cart -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ENTITY % charge SYSTEM "charge.mod">
%charge;

<!ENTITY % pay SYSTEM "pay.mod">
%pay;

<!ENTITY % shipment SYSTEM "shipment.mod">
%shipment;

<!ENTITY % address SYSTEM "addresso.mod">
%address;

<!ENTITY % transact SYSTEM "transact.mod">
%transact;

<!ENTITY % pointers SYSTEM "pointers.mod">
%pointers;

<!ELEMENT shopping.cart (meta?, session.id,
    shopping.cart.operator.pointer, shopping.cart.user.pointer,
    shopping.cart.item*, shopping.cart.group.charges?)>
<!ATTLIST shopping.cart
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT session.id (%multilingual;)*>
<!ATTLIST session.id
    %common.attrib;
    %assigned.by.party.attrib;
>

<!ELEMENT shopping.cart.item (retail.catalog.item.ordered,
    charge.group?)>
<!ATTLIST shopping.cart.item
    %common.attrib;
>

<!ELEMENT shopping.cart.group.charges (charge.group)>
<!ATTLIST shopping.cart.group.charges
    %common.attrib;
>

```

```

<!-- taxonomy.dtd  Version:  0.8 -->
<!-- Purpose:  define taxonomy structure -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % comments SYSTEM "comments.mod">
%comments;

<!ENTITY % pointers SYSTEM "pointers.mod">
%pointers;

<!ELEMENT taxon (taxon.name, taxon.id,
                 taxon.info?, taxon.parent.pointer*,
                 taxon.equiv.pointer*,
                 (taxon.child.pointer | taxon)*)>
<!ATTLIST taxon
    %common.attrib;
>

<!ELEMENT taxon.name (%multilingual;)*>
<!ATTLIST taxon.name
    %common.attrib;
>

<!ELEMENT taxon.id (#PCDATA)>
<!ATTLIST taxon.id
    %common.attrib;
>
<!ELEMENT taxon.info (%multilingual;)*>
<!ATTLIST taxon.info
    %common.attrib;
>

```

```

<!-- transact.mod Version: 0.8 -->
<!-- Purpose: describe a transaction -->
<!-- Terry Allen 17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!--ELEMENT transaction.set (transaction.set | transaction)+>
<!--ATTLIST transaction.set
    %common.attrib;
    %ttl.attrib;
>

<!--ELEMENT transaction (transaction.id+, tpa.pointer*,
    market.participant.info.pointer+,
    exchange.description, exchange.description+)>
<!--ATTLIST transaction
    %common.attrib;
    %ttl.attrib;
>

<!--ELEMENT exchange.description ((commerce.item,
    shipment.coordinates.set?, payment.set?)+)>
<!--ATTLIST exchange.description
    from.party CDATA #REQUIRED
    to.party CDATA #REQUIRED
>

<!--ELEMENT commerce.item ((monetary.payment
    | retail.catalog.item.ordered), charge.group?)>
<!--ATTLIST commerce.item
    %common.attrib;
>

<!--ELEMENT transaction.id (#PCDATA)>
<!--ATTLIST transaction.id
    %common.attrib;
    %assigned.by.party.attrib;
>

<!--ELEMENT retail.catalog.item.ordered (catalog.entry.pointer,
    catalog.entry.id, info.description.set?, quantity.ordered)>
<!--ATTLIST retail.catalog.item.ordered
    %common.attrib;
    %ttl.attrib;
>

<!--ELEMENT retail.catalog.item.shipped (catalog.entry.pointer,
    catalog.entry.id, info.description.set?, quantity.shipped)>
<!--ATTLIST retail.catalog.item.shipped
    %common.attrib;
    %ttl.attrib;
>

<!--ELEMENT quantity.ordered (#PCDATA)>
<!--ATTLIST quantity.ordered
    %common.attrib;

```



```
>  
  
<!ELEMENT quantity.shipped (#PCDATA)>  
<!--ATTLIST quantity.shipped  
      %common.attrib;  
>  
  
<!ELEMENT quantity.desired (#PCDATA)>  
<!--ATTLIST quantity.desired  
      %common.attrib;  
>
```

```
<!-- ttlattri.mod  Version:  0.8  -->
<!-- Purpose:  group time-to-live attributes -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % ttl.attrib
    "effective CDATA #IMPLIED
    expires CDATA #IMPLIED"
>
```

```

<!-- who.mod   Version:  0.1 -->
<!-- Purpose:  group personal information primitives -->
<!-- Terry Allen  17 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ELEMENT personal.name (%multilingual;)*>
<!ATTLIST personal.name
    %common.attrib;
>

<!ELEMENT occupation.title (%multilingual;)*>
<!ATTLIST occupation.title
    %common.attrib;
>

<!ELEMENT occupation.code.jp EMPTY>
<!ATTLIST occupation.code.jp
    %common.attrib;
    schema:jisx0404      CDATA #IMPLIED
>

<!ELEMENT contact (contact.function*, personal.name*,
    language.understood*,
    occupation.title?, occupation.code?, address.set+)>
<!ATTLIST contact
    %common.attrib;
>

<!ELEMENT contact.function (%multilingual;)*>
<!ATTLIST contact.function
    %common.attrib;
>

<!ELEMENT language.understood EMPTY>
<!ATTLIST language.understood
    %lang.attrib.required;
>

```

**Exhibit F. "Requirements and Tasks for the January Demo, (Updated 1/6/98 by Kenneth)", file named "demo\_req\_tasks.html" from Veo/web/dev/documents/old/demo directory (date stamped before January 21, 1997)**

# Requirements and Tasks for the January Demo

(Updated 1/6/98 by Kenneth)

---

## Introduction

This document is ment to specify the functional requirements and tasks for the demo in the January time frame. This document is more about "what" and "why", than "how". Input to this document has been the big scenario document that Bart wrote, email Bob sent to Ingram on 12/17/97, Terry's feedback to this document and discussions among the team members. Up to now I have kept this document to force us to be more explicit about what the demo is about and more importantly, is not. The document is not fully in synch with Andy D's schedule, so the two need to be read together.

Usually when things get printed down and evaluated, they converge faster to the goal. I

## Background

From the OECA document: **Manufacturers** today utilize complex processes to all but guess inventory levels and locations across the supply chain at any point in time. This is because there is no agreement on something as simple as a standard part numbering system or standard inventory query API. This significantly impacts production planning, channel allocation, and cost of returns. **Distributors**, who provide pre- and post-sale technical support to their resellers on tens of thousands of SKU's, must grapple with disparate forms of product information collected from hundreds of manufactures with no common taxonomy. The lack of product information standards makes the current aggregation and dissemination of such contents an expensive and ineffeicient proposition - an effort duplicated by each distributor in the channel. **Resellers** must learn and maintain different ordering/return procedures and system interfaces to each distributor and direct manufacturer with whom they trade, causing them to spend valuable resources in back-office operations.

## Purpose

The purpose of the demo is to show Ingram Micro and the DoD officer how the CBL/XML document exchange approach can work in a real setting. It is assumed that they see the exact same demo.

A side effect is that we get a chance to integrate some of the work we have done and thereby serve as a feasibility study for our evaluation of the Amber release technology.

## Scope

The demo is about showing an exchange of CBL documents between business entities; to register with each other, information about companies and their offerings, to follow inventory through the chain, to query about documents and inventory. The supply chain is limited to 2 suppliers, 1 distributor, 2 resellers. The inventory is Laptop computers. It is assumed that the inventory data is entered in advanced, i.e. the supplier entered their info, the distributor enters theirs and so do the reseller. The demo shows how this info is exchanged to create a marketplace.

The demo is not about efficient server architectures and legacy system integration. Storage in files and memory is acceptable. Performance and scalability need not be addressed as the volume of traffic will be very low.

The demo will be enhanced and shown at other occasions. However the scope of the January demo is to be remained fixed.

*We do not expect to be able to complete a complete end-to-end order on 1/21. Our design treats the integrated catalog as the "live catalog" that serves as the user interface to all the other value-added services -- inventory, quotations, logistics, etc.*

## **Timeframe**

The demo is to be ready for Ingram Micro on 1/21/98 and DoD later that week. The demo might be enhanced, and showed at other occasions. That is not a consideration at this point.

## **Actors**

Three links of the supply chain, with a center around the distributor:

- Manufacturer
- Distributor
- Reseller

## **Hardware**

It must be possible to run the demo on one laptop, even though it adds value to user's perception if it runs over a LAN. Therefore a two machine configuration is probably more common. Windows 95/NT is assumed.

## **Demo Architecture**

1-3 clients which run in a browser. Prepared bookmarks. Important to logically separate the 3 actors. If 3 different browser processes are needed, or if different bookmarks are enough, need to be decided.

We need to prepare static HTML files that serve as the front to the:

- distributor for supplier and reseller login, registration of company and products.
- distributor for integrated catalog.
- supplier for taxonomy and inventory queries.
- reseller

Some forms will also be generated from the XML/DTD. A middleman running as a servlet in a Webserver translates HTTP/HTML to CBL.

1 server process. While the middleman described above is serving the HTML pages, the server is only serving CBL/XML document transfers. We need to set up the in process communication to use the right subclasses to InputStream and OutputStream. Given the purpose of the demo one server should be enough. The separated business entities live their own lives within the server and must not use information through hidden APIs. All information exchange is done via CBL/XML streams over HTTP or a raw byte stream.

The only protocol for the demo is HTTP. No FTP. No SMTP.

## **CBL - Common Business Language, descriptions used in the demo**

(Need to be shortend significantly. **Terry**, Bob, Bart, Andy D)

There is just a ton of info available about each of the laptop machines. I've constructed minimal product descriptions for one configuration of each, including product name, cpu, cpu speed, display size, and hard drive size. I'll flesh these out when someone can tell me what information is to be used during the demo.

I have revised some of the CBL modules, and made a special product description DTD for this demo, but I haven't yet cut down the set of modules to the minimum because I don't yet know all of what the demo may require.

I NEED A STORYBOARD FOR THE QUERYING PART OF THE DEMO. What specific questions are to be asked?

\*\*\*I don't see how manufacturers indicate pricing to Ingram. We should ask. And I don't understand point 4c, a manufacturer askin what prices are being charged for its product. Ingram is not integrating IBM's and DEC's catalogues, nor COMPUSA's and Fry's. Ingram makes its own catalogue and doesn't do any integration at all. It forces its suppliers to use its schema (that's what that binder is about). It does it right.

\*\*\*Mapping part numbers does not appear to be a big deal (details available orally). The query, "here's a part number, what is everyone else calling it?" doesn't work well with laptops.

Some URNs are used. Some URLs are used. The URNs are in a new pattern that we don't intend to implement, but don't tell anyone that; this pattern is good chaff. The URLs are all relative, that is, just "ingram.xml", not "http://www.ingrammicro.com/something/ingram.xml". When the architecture for the demo is determined these URLs should be adjusted accordingly.

The CBL supports the whole sequence of the demo; I don't think that the demo will require the MIME packaging envisioned in full CBL.

TBS: All acks, Ingram's catentries, info requests and responses.

1. Market Description. Ingram creates imdesc.xml and publicizes it. imdesc.xml refers to ingram.xml.

2. IBM, DEC, COMPUSA, and Fry's send market participant info to Ingram so they can be approved and listed in the market's directories.

ibm.xml, dec.xml, compu.xml, frys.xml

Ingram acks and registers the documents.

3. IBM and DEC send product descriptions to Ingram, think.xml and hinote.xml. Ingram acks and from those product descriptions produces its own catalogue entries for them. Those cat entries are TBS. (May need multiple files for the multiple configs of these products.)

4. COMPUSA and Fry's inquire about laptops that Ingram has. NEED DETAILS. TBS: the information request docs and the responses.

5. We pretend that both COMPUSA and Fry's buy some of each laptop.

6. IBM and DEC inquire about laptops that Ingram has and has sold (= laptops in the channel?). TBS: the information request docs and the responses.

These are the CBL descriptions that we plan to use and instantiate:

- datetime.mod, for Date and Time
- currency.mod, for Currencies
- country.mod and addresso.mod, for Geographical Information
- price.mod, for Price Information
- payment.mod, for Payment Information
- paynoteo.dtd, for Payment Notice
- proddesc.mod, for a Simple Product Description
- markdesc.dtd, for Market Description
- markpart.dtd, for Market Participant Information
- catentry.dtd, for a Simple Catalogue Entry



shopcart.dtd, for a Shopping Cart  
transact.mod, to provide a mode-independent basis for  
taxonomy.mod, for Product Taxonomy, which may occur in a catalogue entry

In addition to these semantics of trade, we need semantics for the component-based services of our system, such as:

servdesc.dtd, for a Service Description  
Directory (Registry) Profile, perhaps also Server Profile  
servmeta.dtd, for a Server Metadata about Documents  
rfq.dtd, for Request For Quote  
Request For Proposal  
ots.dtd, for Offer To Sell  
inventoy.dtd, for Inventory Info

To support message packaging and information discovery and exchange we add:

manifest.dtd, for a Manifest for MIME Message Contents  
guide.dtd, for a Guide to Transaction Negotiation document that outlines the state of negotiation and the response  
expected from the other party  
semantic.dtd, for DTD Semantics  
cblcat.dtd, for URL-URN bookkeeping  
command.dtd, for commands to CBL servers  
modify.dtd, for describing modifications made to one documents in its revision  
infodesc.dtd, for a Request for Information  
response.dtd, Response to Request for Information

Only CBL data is used at this time. No code nor commands.

## **Taxonomy**

It is assumed that most actors use a predefined taxonomy and part number scheme. One actor in the demo uses its own taxonomy and provide the mapping when registering.

## **Queries**

Need one hard coded query to show the use of queries. Need not have a real implementation.

## **Registration**

Need only be able to register a few CBL descriptions. Build up a object structure. Java classes matching the CBL descriptions need to be coded by hand.

## Data

It is assumed that we use real business and product names.

Distributor = Ingram

Manufacturer = IBM, Dec

Reseller = CompUSA, Fry's

Product = IBM ThinkPad 770, 166, 200, 233MHZ, 13.3, 14.1inch. Read more: [ThinkPad 770](#)

Product = DEC HiNote Ultra 2000, 166, 200, 233MHZ, 12.1, 14.1inch. Read more: [HiNote Ultra 2000](#)

## Scenario

(More details)

1) Setting up the "master node" in the channel --defining Ingram's role and the services it will be providing (e.g., registration, integrated catalogs, part number mapping, handling queries about prices and inventories, ordering)

2) Registering companies to participate in the channel as either (a) manufacturers or (b) resellers [this means describing themselves (core metadata), their services (e.g., their catalog schemas), their forms (their business document schemas)]

3) The reseller's view of the channel:

a) show me the integrated catalog

b) here's a part number: what is everyone else calling it

b) show me my price list

4) The manufacturer's view of the channel:

a) show me (my items in) the channel

b) here's a part number: what is everyone else calling it

c) what prices are being charged for this part

## Participants and Roles

Terry Allen - CBL docs

Matt Fuchs - Parser

Kevin Huges - GUI + Server

Kenneth Persson - Integration + Build

Andy Philips - Transport

Bart, Andy D, Bob - Misc

## **Related Work**

Marketing slide ware. Speech to the demo.

Selling the future, the Amber release. Maybe even the Ruby release.

## **Milestones**

1. Scope, requirements well defined. 12/30/97
2. Integrated Development Environment. 12/30/97
3. All data for the demo. 12/30/97
4. Server responding with static HTML. 1/7/97
5. Server creating Java instances from CBL/XML. 1/9/97
6. Server exchanging CBL/XML document. 1/13/97
7. All demo presentation (HTML) done. 1/16/97
8. First fully integrated version, 1/19/97
9. Demo, 1/21/97

## **Task List**

1. ...

**Exhibit G. "imdesc.xml" from cbl/ingram/01 directory (date stamped before January 21, 1997)**

```

<!-- imdesc.xml Version: 0.1 -->
<!-- Purpose: marketplace description for Ingram Micro demo -->
<!-- Terry Allen 2 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<?xml version="1.0"?>
<!DOCTYPE market.description SYSTEM "imarkdsc.dtd">

<market.description>
  <market.name>Ingram Micro Online Sales Network
</market.name>
  <market.operator>
    <market.operator.name>Ingram Micro Inc.
  </market.operator.name>
  <market.participant.info.pointer>
    <xll.locator urlink="ingram.xml">Ingram's Market Participant Info
  </xll.locator>
</market.participant.info.pointer>
</market.operator>
  <service.set>
    <service>
      <service.name>Ordering and Fulfillment
    </service.name>
    <service.function.sequence>
      <service.function>
        <doctype from.party="any" to.party="ingram">order.dtd</doctype>
        <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
      </service.function>
      <service.function>
        <doctype from.party="ingram" to.party="any">invoiceo.dtd</doctype>
        <doctype from.party="any" to.party="ingram">ack.dtd</doctype>
      </service.function>
      <service.function>
        <doctype from.party="ingram" to.party="any">shipnote.dtd</doctype>
      </service.function>
      <service.function>
        <doctype from.party="any" to.party="ingram">paynoteo.dtd</doctype>
        <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
      </service.function>
    </service.function.sequence>
  </service>
  <service>
    <service.name>Market Participant Registration and Querying
  </service.name>
  <service.function.sequence>
    <service.function>

```

```

        <doctype from.party="any" to.party="ingram">imarkprt.dtd</doctype>
        <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
    </service.function>
</service.function.sequence>
</service>
<service>
    <service.name>Catalog Querying
</service.name>
    <service.function.sequence>
    <service.function>
        <doctype from.party="any" to.party="ingram">iireq.dtd</doctype>
        <doctype from.party="ingram" to.party="any">icatfull.dtd</doctype>
    </service.function>
</service.function.sequence>
</service>
<service>
    <service.name>Product Information Acceptance
</service.name>
    <service.function.sequence>
    <service.function>
        <doctype from.party="any" to.party="ingram">iprod.dtd</doctype>
        <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
        <doctype party="ingram">catentry.dtd</doctype>
    </service.function>
</service.function.sequence>
</service>
<service>
    <service.name>Inventory Information Querying
</service.name>
    <service.function.sequence>
    <service.function>
        <doctype from.party="any" to.party="ingram">iireq.dtd</doctype>
        <doctype from.party="ingram" to.party="any">iinv.dtd</doctype>
        <doctype party="ingram">catentry.dtd</doctype>
    </service.function>
</service.function.sequence>
</service>
</service.set>
<market.terms.pointer>
    <xll.locator urlink="http://www.ingrammicro.com/online-bazaar/terms.xml">
</xll.locator>
</market.terms.pointer>
</market.description>

```

**Exhibit H. Selected files from cbl/ingram/01 directory (date stamped before January 21, 1997)**

```

<?xml version="1.0"?>
<!-- compu.xml Version: 0.1 -->
<!-- Purpose: market.p.info for Ingram Micro demo -->
<!-- Terry Allen 3 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE market.participant.info SYSTEM "imarkprt.dtd">
<market.participant.info>
  <business.info>
    <business.name>CompUSA Inc.
    </business.name>
    <address.set>
      <physical.address>
        <location.in.street>14951
        </location.in.street>
        <street>N. Dallas Pkwy
        </street>
        <city>Dallas
        </city>
        <country.subentity>
        <country.subentity.us usps="TX"/>
        </country.subentity>
        <country country.name="US"/>
        <postcode>75240
        </postcode>
      </physical.address>
      <telephone>
        <telephone.number>1-800-COMPUSA
        </telephone.number>
      </telephone>
    </address.set>
  </business.info>
  <service.set>
    <service>
      <service.name>order fulfillment
      </service.name>
      <service.function.sequence>
      <service.function>
        <doctype to.party="COMPUSA">order.dtd</doctype>
      </service.function>
      </service.function.sequence>
      <service.location.pointer>
<xll.locator urllink="http://www.compusa.com/orders.xml">Send Orders Here
      </xll.locator>
      </service.location.pointer>
    </service>
  </service.set>
  <contact>
    <contact.function>Approves Purchase Orders
    </contact.function>
    <personal.name>Cornell Barnard
    </personal.name>
    <occupation.title>Purchasing Officer
    </occupation.title>
    <address.set>
      <physical.address>
        <location.in.street>14951
        </location.in.street>
        <street>N. Dallas Pkwy

```



```
</street>
<city>Dallas
</city>
<country.subentity>
<country.subentity.us usps="TX"/>
</country.subentity>
<country country.name="US"/>
<postcode>75240
</postcode>
</physical.address>
<telephone>
  <telephone.number>1-800-COMPUSA
</telephone.number>
</telephone>
<email>cornell.barnard@compusa.com
</email>
</address.set>
</contact>
</service>
</service.set>
</market.participant.info>
```

```

<?xml version="1.0"?>
<!-- dec.xml Version: 0.1 -->
<!-- Purpose: market.p.info for Ingram Micro demo -->
<!-- Terry Allen 31 Dec 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!DOCTYPE market.participant.info SYSTEM "imarkprt.dtd">
<market.participant.info>
  <business.info>
    <business.name>Digital Equipment Corp.
    </business.name>
    <address.set>
      <physical.address>
        <location.in.street>111
        </location.in.street>
        <street>Powdermill Road
        </street>
        <city>Maynard
        </city>
        <country.subentity>
        <country.subentity.us usps="MA"/>
        </country.subentity>
        <country country.name="US"/>
        <postcode>01754
        </postcode>
      </physical.address>
      <telephone>
        <telephone.number>(978) 493-5111
        </telephone.number>
      </telephone>
    </address.set>
  </business.info>
  <service.set>
    <service>
      <service.name>order fulfillment
      </service.name>
      <service.function.sequence>
      <service.function>
        <doctype to.party="DEC">order.dtd</doctype>
      </service.function>
      </service.function.sequence>
      <service.location.pointer>
<xll.locator urlink="http://www.dec.com/orders.xml">Send Orders Here
      </xll.locator>
      </service.location.pointer>
    </service>
  </service.set>
  <contact>
    <contact.function>Approves Purchase Orders
    </contact.function>
    <personal.name>Joanne Metta-Sullivan
    </personal.name>
    <occupation.title>Purchasing Engineer
    </occupation.title>
    <address.set>
      <physical.address>
        <location.in.street>111
        </location.in.street>
        <street>Powdermill Road

```

```

        </street>
        <city>Maynard
        </city>
        <country.subentity>
        <country.subentity.us usps="MA"/>
        </country.subentity>
        <country country.name="US"/>
        <postcode>01754
        </postcode>
    </physical.address>
    <telephone>
        <telephone.number>(978) 493-5111
        </telephone.number>
    </telephone>
    <email>jms@dec.com
    </email>
</address.set>
</contact>
</service>
</service.set>
</market.participant.info>

```

```

frys.xml.txt
<?xml version="1.0"?>
<!-- dec.xml Version: 0.1 -->
<!-- Purpose: market.p.info for Ingram Micro demo -->
<!-- Terry Allen 31 Dec 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!DOCTYPE market.participant.info SYSTEM "imarkprt.dtd">
<market.participant.info>
    <business.info>
        <business.name>Fry's Electronics Retail Stores
        </business.name>
        <address.set>
            <physical.address>
                <location.in.street>600
                </location.in.street>
                <street>E. Hamilton Avenue
                </street>
                <city>Campbell
                </city>
                <country.subentity>
                <country.subentity.us usps="CA"/>
                </country.subentity>
                <country country.name="US"/>
                <postcode>95008
                </postcode>
            </physical.address>
            <telephone>
                <telephone.number>408-364-3700
                </telephone.number>
            </telephone>
        </address.set>
    </business.info>

```

```

</business.info>
<service.set>
  <service>
    <service.name>order fulfillment
    </service.name>
    <service.function.sequence>
    <service.function>
      <doctype to.party="FRYS">order.dtd</doctype>
    </service.function>
    </service.function.sequence>
    <service.location.pointer>
<xll.locator urllink="http://www.frys.com/orders.xml">Send Orders Here
    </xll.locator>
    </service.location.pointer>
  <contact>
    <contact.function>Approves Purchase Orders
    </contact.function>
    <personal.name>Dachil Hamed
    </personal.name>
    <occupation.title>Purchasing Coordinator
    </occupation.title>
    <address.set>
    <physical.address>
      <location.in.street>600
      </location.in.street>
      <street>E. Hamilton Avenue
      </street>
      <city>Campbell
      </city>
      <country.subentity>
      <country.subentity.us usps="CA"/>
      </country.subentity>
      <country country.name="US"/>
      <postcode>95008
      </postcode>
    </physical.address>
    <telephone>
      <telephone.number>408-364-3700
      </telephone.number>
    </telephone>
    <email>dh@frys.com
    </email>
    </address.set>
    </contact>
  </service>
</service.set>
</market.participant.info>

```

```

<?xml version="1.0"?>
<!-- hinote.xml Version: 0.1 -->
<!-- Purpose: DEC product description for Ingram Micro demo -->
<!-- Terry Allen 3 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE product.description SYSTEM "iprod.dtd">

<product.description>
  <meta>
    <urn>urn:x-cbl:ISBN%200-944940:test:companies:dec:000001
    </urn>
  </meta>
  <general.product.info>
    <product.identity>

      <product.id assigned.by="manufacturer">TBS
      </product.id>
      <product.id assigned.by="ingram">
      </product.id>
      <ingram.taxonomy.category>ingram:00.11
      </ingram.taxonomy.category>

    </product.identity>

    <bundling.and.shipping>

      <open.branch.warehouse.number>
      </open.branch.warehouse.number>
      <case.pack.quantity>
      </case.pack.quantity>
      <pallet.quantity>
      </pallet.quantity>
      <weight.per.unit>
      </weight.per.unit>
      <unit.of.weight>
      </unit.of.weight>
      <shippable.carton.flag>
      </shippable.carton.flag>
      <product.sn.on.box yesorno="yes"/>
      <barcoded.sn.on.box yesorno="yes"/>
      <package.length>
      </package.length>
      <package.width>
      </package.width>
      <package.height>
      </package.height>
      <unit.of.size>
      </unit.of.size>
      <upc>
      </upc>
      <container.upc>
      </container.upc>
      <bill.of.materials>
      </bill.of.materials>
      <media.codes>
      </media.codes>
    </bundling.and.shipping>
  </general.product.info>
</product.description>

```

```

<cpu.codes>
</cpu.codes>
<line.description.one>DIGITAL HiNote Ultra 2000
</line.description.one>
<line.description.two>
</line.description.two>
<sales.description>
</sales.description>
<selling.bullet.set>
  <selling.bullet>Tastes Great
  </selling.bullet>
  <selling.bullet>Less Filling
  </selling.bullet>
</selling.bullet.set>
<requirements.set>
<requirement>
</requirement>
<requirement>
</requirement>
</requirements.set>
</bundling.and.shipping>

</general.product.info>

<supplemental.product.info>
  <options.accessories>
  </options.accessories>
  <addon.consumables>
  </addon.consumables>
</supplemental.product.info>

<product.dimensions.and.warranty>

  <physical.dimensions>
    <product.length>
    </product.length>
    <product.width>
    </product.width>
    <product.height>
    </product.height>
    <product.weight>
    </product.weight>
  </physical.dimensions>

  <warranty.info>
    <standard.warranty>
    </standard.warranty>
    <onsite.support yesorno="yes"/>
    <onsite.yr2 yesorno="yes"/>
    <onsite.yr3 yesorno="yes"/>
    <next.day.support yesorno="yes"/>
    <remarks>
    </remarks>
  </warranty.info>

</product.dimensions.and.warranty>

```

```

<product.specifications>

  <physical.specs>

    <system.type><A/>
    </system.type>
    <battery.type><B/>
    </battery.type>
    <est.batt.life>
    </est.batt.life>
    <batt.recharge.time>
    </batt.recharge.time>
    <number.batteries.included>
    </number.batteries.included>
    <max.no.batts.installable>
    </max.no.batts.installable>
    <power.management>
    </power.management>
    <energy.star.yesorno="yes"/>
    <voltage.supported><C/>
    </voltage.supported>
    <ac.adapter.type><other>XL-Foo-140</other>
    </ac.adapter.type>
    <ac.adapter.capacity>
    </ac.adapter.capacity>
    <security.feature.set><A/>
    </security.feature.set>
    <pointing.device><A/>
    </pointing.device>
    <number.buttons.pd>
    </number.buttons.pd>
    <pd.location><other>unreachable</other>
    </pd.location>
    <docking.station>
    </docking.station>
    <os.set>
    <os>win95
    </os>
    <os>nt
    </os>
    </os.set>
    <system.license><A/>
    </system.license>
    <bundled.software>
      <software.product>
      </software.product>
    </bundled.software>
    <net.interface><B/>
    </net.interface>
    <net.management.included>
    </net.management.included>

  </physical.specs>

  <cpu>
    <processor>
      <ultra/>

```

```

</processor>
<p.speed.set>
<p.speed>166
</p.speed>
</p.speed.set>
<p.upgrade.method>
</p.upgrade.method>
<ram.installed>
</ram.installed>
<ram.max>
</ram.max>
<ram.type><other></other>
</ram.type>
<l1.cache>
</l1.cache>
<l2.cache>
</l2.cache>
<l2.type><B/>
</l2.type>
<bios.manufacturer><A/>
</bios.manufacturer>
<flash.upgrade.bios yesorno="yes"/>
<hard.disk.capacity.set>
<hard.disk.capacity>2.1
</hard.disk.capacity>
</hard.disk.capacity.set>
<h.d.interface><B/>
</h.d.interface>
<h.d.user.removable yesorno="no"/>
<removable.drive.set><A/>
</removable.drive.set>
<small.floppy.drive.type><A/>
</small.floppy.drive.type>
<cdrom.speed><C/>
</cdrom.speed>
<number.mod.bays>
</number.mod.bays>
<bay1.support.set><A/>
</bay1.support.set>
<bay2.support.set><A/>
</bay2.support.set>
<other.mass.storage.set>
<other.mass.storage>
</other.mass.storage>
</other.mass.storage.set>
</cpu>
<audio.video>
<display.tech><A/>
</display.tech>
<d.size.set>
<d.size>12.1
</d.size>
<d.size>14.1
</d.size>
</d.size.set>
<video.bus.type><A/>
</video.bus.type>

```



```

<v.memory.installed>
</v.memory.installed>
<v.memory.max>
</v.memory.max>
<v.memory.type><A/>
</v.memory.type>
<d.res><A/>
</d.res>
<color.palette><A/>
</color.palette>
<ex.monitor><A/>
</ex.monitor>
<ex.monitor.max.res><A/>
</ex.monitor.max.res>
<ex.color.palette><A/>
</ex.color.palette>
<sound.support.compat><A/>
</sound.support.compat>
<midi><A/>
</midi>
<full.duplex yesorno="yes"/>
<audio.ports><A/>
</audio.ports>
<internal.speakers><A/>
</internal.speakers>
<builtin.mphone yesorno="yes"/>
<builtin.modem yesorno="yes"/>
<speakerphone yesorno="yes"/>
<voicemail yesorno="yes"/>
<flash.upgrade.modem yesorno="yes"/>
</audio.video>
<portex>
<system.bus.type><A/>
</system.bus.type>
<pcmcia.slots><A/>
</pcmcia.slots>
<cardbus.pccard yesorno="yes"/>
<zv.pccard yesorno="yes"/>
<pds.slots>
</pds.slots>
<ex.scsi.connector><A/>
</ex.scsi.connector>
<serial.ports>
</serial.ports>
<inf.serial.ports>
</inf.serial.ports>
<parallel.port><A/>
</parallel.port>
<extended.parallel.protocols><A/>
</extended.parallel.protocols>
<keyboard.mouse.port.type><A/>
</keyboard.mouse.port.type>
<mouse.port.type><A/>
</mouse.port.type>
<other.port.set>
<other.port>
</other.port>

```

```
</other.port.set>
</portex>
<accessory>
  <accessory.purpose>
  </accessory.purpose>
  <accessory.replaces>
  </accessory.replaces>
  <accessory.works.with>
  </accessory.works.with>
</accessory>
</product.specifications>
</product.description>
```

```
<!-- hnotecat.xml Version: 0.1 -->
<!-- Purpose: catalog entry for Ingram Micro demo -->
<!-- Terry Allen 5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<?xml version="1.0"?>
<!DOCTYPE catalog.entry SYSTEM "icat.dtd">

<catalog.entry>
<market.participant.info.pointer>
<xll.locator urllink="ingram.xml"/>
</market.participant.info.pointer>
<catalog.entry.id>inghnote
</catalog.entry.id>
<product.description.info.pointer>
<xll.locator urllink="hinote.xml"/>
</product.description.info.pointer>
<price.info>TBS
</price.info>
</catalog.entry>
```

```

<!-- addresso.mod   Version:  0.24  -->
<!-- Purpose:   group address information primitives -->
<!-- Terry Allen  1 Nov 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!ELEMENT address.set (physical.address*, telephone*,
    fax*, email*)>
<!ATTLIST address.set
    %common.attrib;
    %ttl.attrib;
    where (work | home)  "work"
>

<!ELEMENT telephone (telephone.number, telephone.extension?)>
<!ATTLIST telephone
    %common.attrib;
    type (fixed | mobile | pager)  "fixed"
>

<!ELEMENT telephone.number (#PCDATA)>
<!ATTLIST telephone.number
    %common.attrib;
>

<!ELEMENT telephone.extension (#PCDATA)>
<!ATTLIST telephone.extension
    %common.attrib;
>

<!ELEMENT fax (#PCDATA)>
<!ATTLIST fax
    %common.attrib;
>

<!ELEMENT email (#PCDATA)>
<!ATTLIST email
    %common.attrib;
>

<!ELEMENT physical.address (pobox?,
    (building.sublocation?, location.in.street, street)?,
    city, city.subentity?, country.subentity?, country?,
    postcode?)>
<!ATTLIST physical.address
    %common.attrib;
>

<!ELEMENT pobox (#PCDATA)>
<!ATTLIST pobox
    %common.attrib;
>

<!ELEMENT building.sublocation (#PCDATA)>
<!ATTLIST building.sublocation
    %common.attrib;
>

```

```

<!ELEMENT location.in.street (#PCDATA)>
<!ATTLIST location.in.street
    %common.attrib;
>

<!ELEMENT street (#PCDATA)>
<!ATTLIST street
    %common.attrib;
>

<!ELEMENT city (#PCDATA)>
<!ATTLIST city
    %common.attrib;
>

<!ELEMENT city.subentity (#PCDATA)>
<!ATTLIST city.subentity
    %common.attrib;
>

<!ELEMENT country EMPTY>
<!ATTLIST country
    %common.attrib;
    country.name CDATA #REQUIRED
>

<!ELEMENT country.subentity (country.subentity.us
    | country.subentity.jp
    | country.subentity.other)>
<!ATTLIST country.subentity
    %common.attrib;
>

<!ELEMENT country.subentity.us EMPTY>
<!ATTLIST country.subentity.us
    %common.attrib;
    usps (AK | AL | AR | AZ | CA | CO
        | CT | DC | DE | GA | FL
        | HI | IA | ID | IL | IN
        | KA | KY | LA | MA | MD
        | ME | MI | MN | MO | MS
        | MT | NB | NC | ND | NH
        | NJ | NM | NV | NY | OH
        | OK | OR | PA | RI | SC
        | SD | TN | TX | UT | VA
        | VT | WA | WI | WV | WY) #REQUIRED
>

<!ELEMENT country.subentity.jp EMPTY>
<!ATTLIST country.subentity.jp
    %common.attrib;
>

<!ELEMENT country.subentity.other EMPTY>
<!ATTLIST country.subentity.other
    %common.attrib;
>

```

```

<!--ELEMENT postcode (#PCDATA)>
<!--ATTLIST postcode
      %common.attrib;
>

<!--ELEMENT personal.name (#PCDATA)>
<!--ATTLIST personal.name
      %common.attrib;
>

<!--ELEMENT occupation.title (#PCDATA)>
<!--ATTLIST occupation.title
      %common.attrib;
>

<!--ELEMENT occupation.code EMPTY>
<!--ATTLIST occupation.code
      %common.attrib;
>

<!--ELEMENT ship.to.address (address.set)>
<!--ATTLIST ship.to.address
      %common.attrib;
>

<!--ELEMENT ship.from.address (address.set)>
<!--ATTLIST ship.from.address
      %common.attrib;
>

<!--ELEMENT bill.to.address (address.set)>
<!--ATTLIST bill.to.address
      %common.attrib;
>

```

```

<?xml version="1.0"?>
<!-- ibm.xml Version: 0.1 -->
<!-- Purpose: market.p.info for Ingram Micro demo -->
<!-- Terry Allen 31 Dec 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!DOCTYPE market.participant.info SYSTEM "imarkprt.dtd">
<market.participant.info>
  <business.info>
    <business.name>IBM
  </business.name>
  <address.set>

    <physical.address>
      <location.in.street>1
    </location.in.street>
    <street>Old Orchard Road
    </street>
    <city>Armonk
    </city>
    <country.subentity>
    <country.subentity.us usps="NY"/>
    </country.subentity>
    <country country.name="US"/>
    <postcode>10504
    </postcode>
    </physical.address>
    <telephone>
      <telephone.number>(914) 499-1900
    </telephone.number>
    </telephone>
  </address.set>
</business.info>
  <service.set>
    <service>
      <service.name>order fulfillment
    </service.name>
    <service.function.sequence>
    <service.function>
      <doctype to.party="IBM">order.dtd</doctype>
    </service.function>
    </service.function.sequence>
    <service.location.pointer>
<xll.locator urllink="http://www.ibm.com/orders.xml">Send Orders Here
    </xll.locator>
    </service.location.pointer>
  <contact>
    <contact.function>Approves Purchase Orders
  </contact.function>
  <personal.name>Pam Potter-Ricco
  </personal.name>
  <occupation.title>PO Associate
  </occupation.title>
  <address.set>
    <physical.address>
      <location.in.street>1
    </location.in.street>

```

```
<street>Old Orchard Road
</street>
<city>Armonk
</city>
<country.subentity>
<country.subentity.us usps="NY"/>
</country.subentity>
<country country.name="US"/>
<postcode>10504
</postcode>
</physical.address>
<telephone>
  <telephone.number>123-456-7890
  </telephone.number>
</telephone>
<fax>123-456-7889
</fax>
<email>ppr@ibm.com
</email>
</address.set>
</contact>
  </service>
</service.set>
</market.participant.info>
```



```

<!-- icat.dtd   Version:  0.1 -->
<!-- Purpose:   catalog entry for Ingram Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ELEMENT catalog.entry (meta?, market.participant.info.pointer,
    catalog.entry.id, product.description.info.pointer, price.info)>
<!ATTLIST catalog.entry
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT catalog.entry.id (#PCDATA)>
<!ATTLIST catalog.entry.id
    %common.attrib;
>

<!ELEMENT price.info (#PCDATA)>
<!ATTLIST price.info
    %common.attrib;
>

```

```

<!-- icatfull.dtd   Version:  0.1 -->
<!-- Purpose:  whole catalog for Ingram Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ELEMENT catalog (meta?, market.participant.info.pointer,
    payment.info, shipment.info, catalog.entry.pointer+)>
<!ATTLIST catalog
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT payment.info (#PCDATA)>
<!ATTLIST payment.info
    %common.attrib;
>

<!ELEMENT shipment.info (#PCDATA)>
<!ATTLIST shipment.info
    %common.attrib;
>

```

```

<!-- icommatt.mod  Version: 0.1 -->
<!-- Purpose:  group declarations for common attributes plus
        linking elements for Ingram Micro demo -->
<!-- Terry Allen  2 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY lt "&#60;">
<!ENTITY gt "&#62;">
<!ENTITY amp "&#38;">
<!ENTITY apos "&#39;">
<!ENTITY quot "&#34;">

<!ENTITY % lang.attrib.implied
        "lang CDATA #IMPLIED"
>

<!ENTITY % lang.attrib.required
        "lang CDATA #REQUIRED"
>

<!ENTITY % script.attrib
        "script CDATA #IMPLIED"
>

<!ENTITY % altrep.attrib
        "altrep.pointer CDATA #IMPLIED"
>

<!ENTITY % urn.attrib.implied
        "urn CDATA #IMPLIED"
>

<!ENTITY % ident.attrib.implied
        "ident CDATA #IMPLIED"
>

<!ENTITY % ident.attrib.required
        "ident CDATA #REQUIRED"
>

<!ENTITY % common.attrib
        "%lang.attrib.implied;
        %script.attrib;
        %altrep.attrib;
        %ident.attrib.implied;
        %urn.attrib.implied;"
>

<!ENTITY % common.attrib.ident.required
        "%lang.attrib.implied;
        %script.attrib;
        %altrep.attrib;
        %ident.attrib.required;
        %urn.attrib.implied;"
>

<!ENTITY % xll.attnames.attrib

```

```

    "XML-ATTRIBUTES      CDATA #FIXED
    &#39;HREF      urllink
    SHOW      XLL-SHOW
    ACTUATE      XLL-ACTUATE
    BEHAVIOR XLL-BEHAVIOR
    XML-LINK XLL-LINK&#39;"
>

<!ENTITY % xll.exlink.attrib
'%xll.attnames.attrib;
XLL-LINK CDATA #FIXED      "EXTENDED"
XLL-SHOW CDATA #FIXED      "EMBED"
XLL-ACTUATE CDATA #FIXED      "USER"
XLL-BEHAVIOR CDATA #FIXED      "EMBED"'
>

<!ENTITY % xll.loclink.attrib
'%xll.attnames.attrib;
XLL-LINK CDATA #FIXED      "LOCATOR"
XLL-SHOW CDATA #FIXED      "EMBED"
XLL-ACTUATE CDATA #FIXED      "USER"
XLL-BEHAVIOR CDATA #FIXED      "EMBED"'
>

<!ENTITY % xll.or.urn "xll.locator | urn.reference"
>

<!ELEMENT xll.locator (#PCDATA)>
<!ATTLIST xll.locator
    %common.attrib;
    %xll.loclink.attrib;
    urllink CDATA #REQUIRED
>

<!ELEMENT urn.reference (#PCDATA)>
<!ATTLIST urn.reference
    %common.attrib;
    urnlink CDATA #REQUIRED
    xll.frag.extender CDATA #IMPLIED
>

<!ENTITY % party.attrib "party CDATA #IMPLIED">
<!ENTITY % from.party.attrib "from.party CDATA #IMPLIED">
<!ENTITY % to.party.attrib "to.party CDATA #IMPLIED">
<!ENTITY % owner.party.attrib "owner.party CDATA #IMPLIED">
<!ENTITY % in.possession.of.party.attrib "in.possession.of.party CDATA
#IMPLIED">
<!ENTITY % to.deliver.to.party.attrib "to.deliver.to.party CDATA #IMPLIED">

<!ELEMENT xll.xptr.frag (#PCDATA)>
<!ATTLIST xll.xptr.frag
    %common.attrib;

>

<!ENTITY % single.choice.attrib "cbl-choice CDATA #FIXED 'single'">

```

```
<!-- ifull.xml Version: 0.1 -->
<!-- Purpose: full catalog for Ingram Micro demo -->
<!-- Terry Allen 5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<?xml version="1.0"?>
<!DOCTYPE catalog SYSTEM "icatfull.dtd">

<catalog>
<market.participant.info.pointer>
  <xll.locator urllink="ingram.xml"/>
</market.participant.info.pointer>
<payment.info>TBS
</payment.info>
<shipment.info>TBS
</shipment.info>
<catalog.entry.pointer>
  <xll.locator urllink="thinkcat.xml"/>
</catalog.entry.pointer>
<catalog.entry.pointer>
  <xll.locator urllink="hnotecat.xml"/>
</catalog.entry.pointer>
</catalog>
```

```

<!-- ihi.xml Version: 0.1 -->
<!-- Purpose:  inventory request for Ingram Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<?xml version="1.0"?>
<!DOCTYPE request.for.info SYSTEM "iireq.dtd">

<request.for.info>
<info.description.set>
<info.description>
<xml.descriptor>
<doctype><dtd systemid="iinv.dtd"/></doctype>
<xml.descriptor.details>
<xll.xptr.frag>ROOT()(1,line.description.one)STRING(DIGITAL HiNote Ultra 2000)
</xll.xptr.frag>
</xml.descriptor.details>
</xml.descriptor>
</info.description>
</info.description.set>
</request.for.info>

```

```

<!-- iinfodsc.mod Version: 0.1 -->
<!-- Purpose:  substrate for requests for information for Ingram Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % infodesc.or.set
    "(info.description | info.description.set)"
>

<!ELEMENT info.description.set (%infodesc.or.set;,
    ((and, %infodesc.or.set;)*
    | (or, %infodesc.or.set;)*
    | (not, %infodesc.or.set;))
)>
<!ATTLIST info.description.set
    %common.attrib;
>

<!ELEMENT and EMPTY>
<!ATTLIST and
    %common.attrib;
>

<!ELEMENT or EMPTY>
<!ATTLIST or
    %common.attrib;
>

<!ELEMENT not EMPTY>
<!ATTLIST not
    %common.attrib;
>

<!ELEMENT info.description (xml.descriptor | nonxml.descriptor
    | urn.reference | regexp | range)>
<!ATTLIST info.description
    %common.attrib;
>

<!ELEMENT xml.descriptor (doctype, xml.descriptor.details)>
<!ATTLIST xml.descriptor
    %common.attrib;
>

<!ELEMENT nonxml.descriptor (%xll.or.urn;)>
<!ATTLIST nonxml.descriptor
    %common.attrib;
    cblpointer CDATA    #FIXED    "outside"
>

<!ELEMENT regexp (#PCDATA)>
<!ATTLIST regexp
    %common.attrib;
>

<!ELEMENT doctype (dtd)>
<!ATTLIST doctype

```

```

    %common.attrib;
>

<!ELEMENT dtd EMPTY>
<!ATTLIST dtd
    systemid CDATA #IMPLIED
    publicid CDATA #IMPLIED
    %common.attrib;
>

<!ELEMENT xml.descriptor.details (xml.descriptor.context?,
    (xll.xptr.frag | xml.other.descriptor)+)>
<!ATTLIST xml.descriptor.details
    %common.attrib;
>

<!ELEMENT xml.descriptor.context EMPTY>
<!ATTLIST xml.descriptor.context
    %common.attrib;
    xll.link.traverse (none | all | all.recurse) "all.recurse"
>

<!ELEMENT xml.other.descriptor (#PCDATA)>
<!ATTLIST xml.other.descriptor
    %common.attrib;
    type CDATA #REQUIRED
>

<!ELEMENT range (range.parameter, range.parameter, range.parameter*)>
<!ATTLIST range
    schema.name CDATA #IMPLIED
    %common.attrib;
>

<!ELEMENT range.parameter (#PCDATA)>
<!ATTLIST range.parameter
    range.type (integer | decimal | nonnumeric) "decimal"
    schema.mapping CDATA #IMPLIED
    %common.attrib;
>

```



```

<!-- iinv.dtd   Version: 0.1 -->
<!-- Purpose:  provide inventory information for Ingram Micro demo -->
<!-- Terry Allen 5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ENTITY % infodesc SYSTEM "iinfodsc.mod">
%infodesc;

<!ELEMENT inventory.item (meta?, product.description.id,
    product.choice*, present.location?, quantity.in.stock?)>
<!ATTLIST inventory.item
    %common.attrib;
    %ttl.attrib;
    %owner.party.attrib;
    %in.possession.of.party.attrib;
    %to.deliver.to.party.attrib;
>

<!ELEMENT product.description.id (#PCDATA)>
<!ATTLIST product.description.id
    %common.attrib;
>

<!ELEMENT product.choice (info.description)>
<!ATTLIST product.choice
    %common.attrib;
>

<!ELEMENT present.location (#PCDATA)>
<!ATTLIST present.location
    %common.attrib;
>

<!ELEMENT quantity.in.stock (#PCDATA)>
<!ATTLIST quantity.in.stock
    %common.attrib;
>

```

```

<!-- iinv.xml Version: 0.1 -->
<!-- Purpose: inventory document for Ingram Micro demo -->
<!-- Terry Allen 5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE inventory.item SYSTEM "iinv.dtd">
<inventory.item owner.party="INGRAM">
<product.description.id>urn:x-cbl:ISBN%200-944940:test:companies:ibm:000001
</product.description.id>

<product.choice>
<info.description>
<xml.descriptor>
<doctype>
<dtd systemid="iprod.dtd"/>
</doctype>
<xml.descriptor.details>
<xll.xptr.frag>ROOT() (1,line.description.one)STRING(ThinkPad 770)
</xll.xptr.frag>
<xll.xptr.frag>ROOT() (1,processor)STRING(pentium-mmx)
</xll.xptr.frag>
<xll.xptr.frag>ROOT() (1,p.speed)STRING(223)
</xll.xptr.frag>
<xll.xptr.frag>ROOT() (1,hard.disk.capacity)STRING(4)
</xll.xptr.frag>
<xll.xptr.frag>ROOT() (1,d.size)STRING(13.3)
</xll.xptr.frag>
</xml.descriptor.details>
</xml.descriptor>
</info.description>
</product.choice>

<present.location>St. Louis
</present.location>
<quantity.in.stock>47
</quantity.in.stock>
</inventory.item>

```

```

<!-- iireq.dtd   Version:  0.1 -->
<!-- Purpose:   frame requests for information for Ingram Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ENTITY % infodesc SYSTEM "iinfodsc.mod">
%infodesc;

<!ELEMENT request.for.info (meta?, return.quantity?,
    info.description.set?)>
<!ATTLIST request.for.info
    %common.attrib;
>

<!ELEMENT return.quantity EMPTY>
<!ATTLIST return.quantity
    %common.attrib;
    quantity (all | maxnumber | maxbytes) "all"
>

```

```

<!-- imarkdsc.dtd  Version: 0.1 -->
<!-- Purpose:  describe a marketplace -->
<!-- Terry Allen  2 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % servprim SYSTEM "isrvprim.mod">
%servprim;

<!ENTITY % address SYSTEM "iaddr.mod">
%address;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ELEMENT market.description (meta?, market.name,
    market.id*, market.operator+, service.set,
    market.terms.pointer)>
<!ATTLIST market.description
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT market.name (#PCDATA)>
<!ATTLIST market.name
    %common.attrib;
>

<!ELEMENT market.id (#PCDATA)>
<!ATTLIST market.id
    %common.attrib;
>

<!ELEMENT market.operator (market.operator.name,
    market.participant.info.pointer)>
<!ATTLIST market.operator
    %common.attrib;
>

<!ELEMENT market.operator.name (#PCDATA)>
<!ATTLIST market.operator.name
    %common.attrib;
>

```

```

<!-- imarkprt.dtd Version: 0.2 -->
<!-- Purpose: groups market participant info for Ingram Micro demo -->
<!-- Terry Allen 5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % addresso SYSTEM "iaddr.mod">
%addresso;

<!ENTITY % meta SYSTEM "imeta.mod">
%meta;

<!ENTITY % isrvprim SYSTEM "isrvprim.mod">
%isrvprim;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ELEMENT market.participant.info (meta?, business.info,
    service.set+, financial.info?)>
<!ATTLIST market.participant.info
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT business.info (business.name, dba.name*, previous.name*,
    address.set, business.code*,
    company.superentities?, company.subentities?,
    company.affiliation?, contact*)>
<!ATTLIST company.info
    %common.attrib;
    %ttl.attrib;
>

<!ELEMENT business.code EMPTY>
<!ATTLIST business.code
    %common.attrib;
    code.type {naics | isic | jisx0403.code
        | duns | duns4 | market.assigned} #REQUIRED
>

<!ELEMENT business.name (#PCDATA)>
<!ATTLIST business.name
    %common.attrib;
>

<!ELEMENT dba.name (#PCDATA)>
<!ATTLIST dba.name
    %common.attrib;
>

<!ELEMENT previous.name (#PCDATA)>

{00058304.DOC }

```

```

<!ATTLIST previous.name
    %common.attrib;
>

<!ELEMENT company.superentities (superentity+)>
<!ATTLIST company.superentities
    %common.attrib;
>

<!ELEMENT company.subentities (subentity+)>
<!ATTLIST company.subentities
    %common.attrib;
>

<!ELEMENT company.affiliation (#PCDATA)>
<!ATTLIST company.affiliation
    %common.attrib;
>

<!ELEMENT superentity (company.name, company.info.pointer?,
    company.superentities?)>
<!ATTLIST superentity
    %common.attrib;
>

<!ELEMENT subentity (company.name, company.info.pointer?,
    company.subentities?)>
<!ATTLIST subentity
    %common.attrib;
>

<!ELEMENT financial.info (#PCDATA)>
<!ATTLIST financial.info
    %common.attrib;
>

```

```

<!-- imdesc.xml Version: 0.1 -->
<!-- Purpose: marketplace description for Ingram Micro demo -->
<!-- Terry Allen 2 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<?xml version="1.0"?>
<!DOCTYPE market.description SYSTEM "imarkdsc.dtd">

<market.description>
  <market.name>Ingram Micro Online Sales Network
</market.name>
  <market.operator>
    <market.operator.name>Ingram Micro Inc.
  </market.operator.name>
  <market.participant.info.pointer>
    <xll.locator urllink="ingram.xml">Ingram's Market Participant Info
  </xll.locator>
</market.participant.info.pointer>
</market.operator>
  <service.set>
    <service>
      <service.name>Ordering and Fulfillment
    </service.name>
      <service.function.sequence>
        <service.function>
          <doctype from.party="any" to.party="ingram">order.dtd</doctype>
          <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
        </service.function>
        <service.function>
          <doctype from.party="ingram" to.party="any">invoiceo.dtd</doctype>
          <doctype from.party="any" to.party="ingram">ack.dtd</doctype>
        </service.function>
        <service.function>
          <doctype from.party="ingram" to.party="any">shipnote.dtd</doctype>
        </service.function>
        <service.function>
          <doctype from.party="any" to.party="ingram">paynoteo.dtd</doctype>
          <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
        </service.function>
      </service.function.sequence>
    </service>
    <service>
      <service.name>Market Participant Registration and Querying
    </service.name>
      <service.function.sequence>
        <service.function>
          <doctype from.party="any" to.party="ingram">imarkprt.dtd</doctype>
          <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
        </service.function>
      </service.function.sequence>
    </service>
    <service>
      <service.name>Catalog Querying
    </service.name>
      <service.function.sequence>
        <service.function>
          <doctype from.party="any" to.party="ingram">iireq.dtd</doctype>

```

```

    <doctype from.party="ingram" to.party="any">icatfull.dtd</doctype>
  </service.function>
</service.function.sequence>
</service>
<service>
  <service.name>Product Information Acceptance
</service.name>
  <service.function.sequence>
    <service.function>
      <doctype from.party="any" to.party="ingram">iprod.dtd</doctype>
      <doctype from.party="ingram" to.party="any">ack.dtd</doctype>
      <doctype party="ingram">catentry.dtd</doctype>
    </service.function>
  </service.function.sequence>
</service>
<service>
  <service.name>Inventory Information Querying
</service.name>
  <service.function.sequence>
    <service.function>
      <doctype from.party="any" to.party="ingram">iireq.dtd</doctype>
      <doctype from.party="ingram" to.party="any">iinv.dtd</doctype>
      <doctype party="ingram">catentry.dtd</doctype>
    </service.function>
  </service.function.sequence>
</service>
</service.set>
<market.terms.pointer>
  <xll.locator urllink="http://www.ingrammicro.com/online-bazaar/terms.xml">
</xll.locator>
</market.terms.pointer>
</market.description>

```



```

<!-- imeta.mod   Version:  0.1 -->
<!-- Purpose:   group metainformation for Ingram Micro demo -->
<!-- Terry Allen 31 Dec 1997 -->
<!-- Copyright 1997 CNgroup, Inc. -->

<!ELEMENT meta (urn?, url?, version?, time.created?,
               time.last.modified?)>
<!ATTLIST meta
               %common.attrib;
>

<!ELEMENT url (#PCDATA)>
<!ATTLIST url
               %common.attrib;
>

<!ELEMENT urn (#PCDATA)>
<!ATTLIST urn
               %common.attrib;
>

<!ELEMENT version (#PCDATA)*>
<!ATTLIST version
               %common.attrib;
>

<!ELEMENT time.created (utc)>
<!ATTLIST time.created
               %common.attrib;
>

<!ELEMENT time.last.modified (utc)>
<!ATTLIST time.last.modified
               %common.attrib;
>

```

```

<?xml version="1.0"?>
<!-- ingram.xml Version: 0.1 -->
<!-- Purpose: market.p.info for Ingram Micro demo -->
<!-- Terry Allen 3 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!DOCTYPE market.participant.info SYSTEM "imarkprt.dtd">
<market.participant.info>
  <business.info>
    <business.name>Ingram Micro Inc.
    </business.name>
    <address.set>
      <physical.address>
        <location.in.street>1600
        </location.in.street>
        <street>E. St. Andrew Pl.
        </street>
        <city>Santa Ana
        </city>
        <country.subentity>
        <country.subentity.us usps="CA"/>
        </country.subentity>
        <country country.name="US"/>
        <postcode>92799
        </postcode>
      </physical.address>
      <telephone>
        <telephone.number>714-566-1000 x2259, 5154
        </telephone.number>
      </telephone>
    </address.set>
  </business.info>
  <service.set>
    <service>
      <service.name>Market Participant Registration
      </service.name>
      <service.function.sequence>
      <service.function>
        <doctype to.party="INGRAM">markpart.dtd</doctype>
      </service.function>
      </service.function.sequence>
      <service.location.pointer>
<xll.locator urllink="http://www.ingrammicro.com/orders.xml">Send
  Market Participant Info Here
    </xll.locator>
      </service.location.pointer>
    <contact>
      <contact.function>Registers Market Participants
      </contact.function>
      <personal.name>Kathryn Mitchell
      </personal.name>
      <occupation.title>New Products Manager
      </occupation.title>
      <address.set>
      <physical.address>
        <location.in.street>1600
        </location.in.street>

```

```
<street>E. St. Andrew Pl.
</street>
<city>Santa Ana
</city>
<country.subentity>
<country.subentity.us usps="CA"/>
</country.subentity>
<country country.name="US"/>
<postcode>92799
</postcode>
</physical.address>
<telephone>
  <telephone.number>714-566-1000 x2259, 5154
</telephone.number>
</telephone>
<email>k.mitchell@ingrammicro.com
</email>
</address.set>
</contact>
</service>
</service.set>
</market.participant.info>
```

```

<!-- ipointer.mod   Version:  0.1 -->
<!-- Purpose:   provide pointers for Ingrma Micro demo -->
<!-- Terry Allen  5 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ELEMENT market.participant.info.pointer (%xll.or.urn;)>
<!-- ATTLIST market.participant.info.pointer
    %common.attrib;
    %xll.exlink.attrib;
    cblpointer CDATA      #FIXED      "content"
    target.dtd  CDATA      #FIXED      "imarkprt.dtd"
-->

<!ELEMENT market.terms.pointer (%xll.or.urn;)>
<!-- ATTLIST market.terms.pointer
    %common.attrib;
    cblpointer CDATA      #FIXED      "content"
-->

<!ELEMENT company.info.pointer (%xll.or.urn;)>
<!-- ATTLIST company.info.pointer
    %common.attrib;
    %xll.exlink.attrib;
    cblpointer CDATA      #FIXED      "outside"
-->

<!ELEMENT taxon.parent.pointer (%xll.or.urn;)>
<!-- ATTLIST taxon.parent.pointer
    %common.attrib;
    cblpointer CDATA      #FIXED      "outside"
    target.dtd  CDATA      #FIXED      "itaxo.dtd"
-->

<!ELEMENT taxon.child.pointer (%xll.or.urn;)>
<!-- ATTLIST taxon.child.pointer
    %common.attrib;
    cblpointer CDATA      #FIXED      "content"
    target.dtd  CDATA      #FIXED      "itaxo.dtd"
-->

<!ELEMENT taxon.pointer (%xll.or.urn;)>
<!-- ATTLIST taxon.pointer
    %common.attrib;
    cblpointer CDATA      #FIXED      "content"
    target.dtd  CDATA      #FIXED      "itaxo.dtd"
-->

<!ELEMENT product.description.info.pointer (%xll.or.urn;)>
<!-- ATTLIST product.description.info.pointer
    %common.attrib;
    cblpointer CDATA      #FIXED      "content"
    target.dtd  CDATA      #FIXED      "iprod.dtd"
-->

<!ELEMENT catalog.entry.pointer (%xll.or.urn;)>
<!-- ATTLIST catalog.entry.pointer
    %common.attrib;

```

cblpointer	CDATA	#FIXED	"content"
target.dtd	CDATA	#FIXED	"iprod.dtd"

>

```

<!-- iprod.dtd Version: 0.2 -->
<!-- Purpose: product description for Ingram Micro demo -->
<!-- Terry Allen 3 Jan 1998 -->
<!-- Copyright 1998 CNgroup, Inc. -->

<!ENTITY % common SYSTEM "icommatt.mod">
%common;

<!ENTITY % ttl SYSTEM "ttlattri.mod">
%ttl;

<!ENTITY % address SYSTEM "iaddr.mod">
%address;

<!ENTITY % pointers SYSTEM "ipointer.mod">
%pointers;

<!ENTITY % imeta SYSTEM "imeta.mod">
%imeta;

<!-- placeholders for empty elements TBS -->

<!ELEMENT A EMPTY>
<!ELEMENT B EMPTY>
<!ELEMENT C EMPTY>

<!ELEMENT product.description (meta, general.product.info,
    supplemental.product.info?, product.dimensions.and.warranty,
    product.specifications)>
<!ATTLIST product.description
    %common.attrib;
>

<!ELEMENT general.product.info (product.identity,
    bundling.and.shipping)>
<!ATTLIST general.product.info
    %common.attrib;
>

<!ELEMENT product.identity (product.id+, ingram.taxonomy.category?,
    product.name?, product.line?, brand?)>
<!ATTLIST product.identity
    %common.attrib;
>

<!ELEMENT product.id (#PCDATA)>
<!ATTLIST product.id
    %common.attrib;
    assigned.by
    (manufacturer | ingram) #IMPLIED
>

<!ELEMENT ingram.taxonomy.category (#PCDATA)>
<!ATTLIST ingram.taxonomy.category
    %common.attrib;
>

```

```

<!ELEMENT product.name (#PCDATA)>
<!ATTLIST product.name
    %common.attrib;
>

<!ELEMENT product.line (#PCDATA)>
<!ATTLIST product.line
    %common.attrib;
>

<!ELEMENT brand (#PCDATA)>
<!ATTLIST brand
    %common.attrib;
>

<!ELEMENT bundling.and.shipping (open.branch.warehouse.number,
    case.pack.quantity, pallet.quantity, weight.per.unit, unit.of.weight,
    shippable.carton.flag, product.sn.on.box, barcoded.sn.on.box,
    package.length, package.width, package.height, unit.of.size,
    upc, container.upc*, bill.of.materials?,
    media.codes, cpu.codes,
    line.description.one, line.description.two?, sales.description,
    selling.bullet.set, requirements.set)>
<!ATTLIST bundling.and.shipping
    %common.attrib;
>

<!ELEMENT open.branch.warehouse.number (#PCDATA)>
<!ATTLIST open.branch.warehouse.number
    %common.attrib;
>

<!ELEMENT case.pack.quantity (#PCDATA)>
<!ATTLIST case.pack.quantity
    %common.attrib;
>

<!ELEMENT pallet.quantity (#PCDATA)>
<!ATTLIST pallet.quantity
    %common.attrib;
>

<!ELEMENT weight.per.unit (#PCDATA)>
<!ATTLIST weight.per.unit
    %common.attrib;
>

<!ELEMENT unit.of.weight (#PCDATA)>
<!ATTLIST unit.of.weight
    %common.attrib;
>

<!ELEMENT shippable.carton.flag (#PCDATA)>
<!ATTLIST shippable.carton.flag
    %common.attrib;
>

```

```

<!ELEMENT product.sn.on.box EMPTY>
<!ATTLIST product.sn.on.box
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT barcoded.sn.on.box EMPTY>
<!ATTLIST barcoded.sn.on.box
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT package.length (#PCDATA)>
<!ATTLIST package.length
    %common.attrib;
>

<!ELEMENT package.width (#PCDATA)>
<!ATTLIST package.width
    %common.attrib;
>

<!ELEMENT package.height (#PCDATA)>
<!ATTLIST package.height
    %common.attrib;
>

<!ELEMENT unit.of.size (#PCDATA)>
<!ATTLIST unit.of.size
    %common.attrib;
>

<!ELEMENT upc (#PCDATA)>
<!ATTLIST upc
    %common.attrib;
>

<!ELEMENT container.upc (#PCDATA)>
<!ATTLIST container.upc
    %common.attrib;
>

<!ELEMENT bill.of.materials (#PCDATA)>
<!ATTLIST bill.of.materials
    %common.attrib;
>

<!ELEMENT media.codes (#PCDATA)>
<!ATTLIST media.codes
    %common.attrib;
>

<!ELEMENT cpu.codes (#PCDATA)>
<!ATTLIST cpu.codes
    %common.attrib;
>

```



```

<!ELEMENT line.description.one (#PCDATA)>
<!--ATTLIST line.description.one
      %common.attrib;
-->

<!ELEMENT line.description.two (#PCDATA)>
<!--ATTLIST line.description.two
      %common.attrib;
-->

<!ELEMENT sales.description (#PCDATA)>
<!--ATTLIST sales.description
      %common.attrib;
-->

<!--ELEMENT selling.bullet.set (selling.bullet+)>
<!--ATTLIST selling.bullet.set
      %common.attrib;
-->

<!--ELEMENT selling.bullet (#PCDATA)>
<!--ATTLIST selling.bullet
      %common.attrib;
-->

<!--ELEMENT requirements.set (requirement+)>
<!--ATTLIST requirements.set
      %common.attrib;
-->

<!--ELEMENT requirement (#PCDATA)>
<!--ATTLIST requirement
      %common.attrib;
-->

<!--ELEMENT supplemental.product.info (options.accessories,
      addon.consumables)>
<!--ATTLIST supplemental.product.info
      %common.attrib;
-->

<!--ELEMENT options.accessories (#PCDATA)>
<!--ATTLIST options.accessories
      %common.attrib;
-->

<!--ELEMENT addon.consumables (#PCDATA)>
<!--ATTLIST addon.consumables
      %common.attrib;
-->

<!--ELEMENT product.dimensions.and.warranty (physical.dimensions,
      warranty.info)>
<!--ATTLIST product.dimensions.and.warranty
      %common.attrib;
-->

```

```

<!ELEMENT physical.dimensions (product.length,
    product.width, product.height, product.weight)>
<!ATTLIST product.dimensions
    %common.attrib;
>

<!ELEMENT product.length (#PCDATA)>
<!ATTLIST product.length
    %common.attrib;
>

<!ELEMENT product.width (#PCDATA)>
<!ATTLIST product.width
    %common.attrib;
>

<!ELEMENT product.height (#PCDATA)>
<!ATTLIST product.height
    %common.attrib;
>

<!ELEMENT product.weight (#PCDATA)>
<!ATTLIST product.weight
    %common.attrib;
>

<!ELEMENT warranty.info (standard.warranty, onsite.support,
    onsite.yr2, onsite.yr3, next.day.support, remarks)>
<!ATTLIST warranty.info
    %common.attrib;
>

<!ELEMENT standard.warranty (#PCDATA)>
<!ATTLIST standard.warranty
    %common.attrib;
>

<!ELEMENT onsite.support EMPTY>
<!ATTLIST onsite.support
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT onsite.yr2 EMPTY>
<!ATTLIST onsite.yr2
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT onsite.yr3 EMPTY>
<!ATTLIST onsite.yr3
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT next.day.support EMPTY>
<!ATTLIST next.day.support

```

```

    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT remarks (#PCDATA)>
<!ATTLIST remarks
    %common.attrib;
>

<!ELEMENT product.specifications (physical.specs,
    cpu, audio.video, portex, accessory)>
<!ATTLIST product.specifications
    %common.attrib;
>

<!ELEMENT physical.specs (system.type, battery.type, est.batt.life,
    batt.recharge.time, number.batteries.included,
    max.no.batts.installable, power.management, energy.star,
    voltage.supported, ac.adapter.type, ac.adapter.capacity,
    security.feature.set, pointing.device, number.buttons.pd,
    pd.location, docking.station, os.set, system.license,
    bundled.software, net.interface, net.management.included)>
<!ATTLIST physical.specs
    %common.attrib;
>

<!ELEMENT other (#PCDATA)>
<!ATTLIST other
    %common.attrib;
>

<!ELEMENT system.type (other | A | B | C)>
<!ATTLIST system.type
    %common.attrib;
>

<!ELEMENT battery.type (other | A | B | C)>
<!ATTLIST battery.type
    %common.attrib;
>

<!ELEMENT est.batt.life (#PCDATA)>
<!ATTLIST est.batt.life
    %common.attrib;
>

<!ELEMENT batt.recharge.time (#PCDATA)>
<!ATTLIST batt.recharge.time
    %common.attrib;
>

<!ELEMENT number.batteries.included (#PCDATA)>
<!ATTLIST number.batteries.included
    %common.attrib;
>

<!ELEMENT max.no.batts.installable (#PCDATA)>
<!ATTLIST max.no.batts.installable

```

```

    %common.attrib;
>

<!ELEMENT power.management (#PCDATA)>
<!ATTLIST power.management
    %common.attrib;
>

<!ELEMENT energy.star EMPTY>
<!ATTLIST energy.star
    yesorno (yes|no) #REQUIRED
    %common.attrib;
>

<!ELEMENT voltage.supported (other | A| B | C)>
<!ATTLIST voltage.supported
    %common.attrib;
>

<!ELEMENT ac.adapter.type (other | A| B | C)>
<!ATTLIST ac.adapter.type
    %common.attrib;
>

<!ELEMENT ac.adapter.capacity (#PCDATA)>
<!ATTLIST ac.adapter.capacity
    %common.attrib;
>

<!ELEMENT security.feature.set (other?, A?, B?, C?)>
<!ATTLIST security.feature.set
    %common.attrib;
>

<!ELEMENT pointing.device (other | A| B | C)>
<!ATTLIST pointing.device
    %common.attrib;
>

<!ELEMENT number.buttons.pd (#PCDATA)>
<!ATTLIST number.buttons.pd
    %common.attrib;
>

<!ELEMENT pd.location (other | A| B | C)>
<!ATTLIST pd.location
    %common.attrib;
>

<!ELEMENT docking.station (#PCDATA)>
<!ATTLIST docking.station
    %common.attrib;
>

<!ELEMENT os.set (os+)>
<!ATTLIST os.set
    %common.attrib;

```

```

>

<!ELEMENT os (#PCDATA)>
<!ATTLIST os
    %common.attrib;
>

<!ELEMENT system.license (other | A | B | C)>
<!ATTLIST system.license
    %common.attrib;
>

<!ELEMENT bundled.software (software.product+)>
<!ATTLIST bundled.software
    %common.attrib;
>

<!ELEMENT software.product (#PCDATA)>
<!ATTLIST software.product
    %common.attrib;
>

<!ELEMENT net.interface (other?, A?, B?, C?)>
<!ATTLIST net.interface
    %common.attrib;
>

<!ELEMENT net.management.included (#PCDATA)>
<!ATTLIST net.management.included
    %common.attrib;
>

<!ELEMENT cpu (processor, p.speed.set, p.upgrade.method, ram.installed,
    ram.max, ram.type, l1.cache, l2.cache, l2.type,
    bios.manufacturer, flash.upgrade.bios, hard.disk.capacity.set,
    h.d.interface, h.d.user.removable, removable.drive.set,
    small.floppy.drive.type, cdrom.speed, number.mod.bays,
    bay1.support.set, bay2.support.set, other.mass.storage.set)>
<!ATTLIST cpu
    %common.attrib;
>

<!ELEMENT processor (pentium | pentium-mmx | ultra | A | B | C)>
<!ATTLIST processor
    %common.attrib;
    %single.choice.attrib;
>

<!ELEMENT pentium EMPTY>
<!ATTLIST pentium
    %common.attrib;
>

<!ELEMENT pentium-mmx EMPTY>
<!ATTLIST pentium-mmx
    %common.attrib;
>

```

```

<!ELEMENT ultra EMPTY>
<!ATTLIST ultra
    %common.attrib;
>

<!ELEMENT p.speed.set (p.speed+)>
<!ATTLIST p.speed.set
    %common.attrib;
>

<!ELEMENT p.speed (#PCDATA)>
<!ATTLIST p.speed
    %common.attrib;
>

<!ELEMENT p.upgrade.method (#PCDATA)>
<!ATTLIST p.upgrade.method
    %common.attrib;
>

<!ELEMENT ram.installed (#PCDATA)>
<!ATTLIST ram.installed
    %common.attrib;
>

<!ELEMENT ram.max (#PCDATA)>
<!ATTLIST ram.max
    %common.attrib;
>

<!ELEMENT ram.type (other?, A?, B?, C?)>
<!ATTLIST ram.type
    %common.attrib;
>

<!ELEMENT l1.cache (#PCDATA)>
<!ATTLIST l1.cache
    %common.attrib;
>

<!ELEMENT l2.cache (#PCDATA)>
<!ATTLIST l2.cache
    %common.attrib;
>

<!ELEMENT l2.type (other | A | B | C )>
<!ATTLIST l2.type
    %common.attrib;
>

<!ELEMENT bios.manufacturer (other | A | B | C )>
<!ATTLIST bios.manufacturer
    %common.attrib;
>

<!ELEMENT flash.upgrade.bios EMPTY>

```

```

<!ATTLIST flash.upgrade.bios
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT hard.disk.capacity.set (hard.disk.capacity+)>
<!ATTLIST hard.disk.capacity.set
    %common.attrib;
>

<!ELEMENT hard.disk.capacity (#PCDATA)>
<!ATTLIST hard.disk.capacity
    %common.attrib;
>

<!ELEMENT h.d.interface (other | A | B | C )>
<!ATTLIST h.d.interface
    %common.attrib;
>

<!ELEMENT h.d.user.removable EMPTY>
<!ATTLIST h.d.user.removable
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT removable.drive.set (other?, A?, B?, C?)>
<!ATTLIST removable.drive.set
    %common.attrib;
>

<!ELEMENT small.floppy.drive.type (other | A | B | C )>
<!ATTLIST small.floppy.drive.type
    %common.attrib;
>

<!ELEMENT cdrom.speed (other | A | B | C )>
<!ATTLIST cdrom.speed
    %common.attrib;
>

<!ELEMENT number.mod.bays (#PCDATA)>
<!ATTLIST number.mod.bays
    %common.attrib;
>

<!ELEMENT bay1.support.set (other?, A?, B?, C?)>
<!ATTLIST bay1.support.set
    %common.attrib;
>

<!ELEMENT bay2.support.set (other?, A?, B?, C?)>
<!ATTLIST bay2.support.set
    %common.attrib;
>

<!ELEMENT other.mass.storage.set (other.mass.storage+)>

```

```

<!ATTLIST other.mass.storage.set
    %common.attrib;
>

<!ELEMENT other.mass.storage (#PCDATA)>
<!ATTLIST other.mass.storage
    %common.attrib;
>

<!ELEMENT audio.video (display.tech, d.size.set, video.bus.type,
    v.memory.installed, v.memory.max, v.memory.type,
    d.res, color.palette, ex.monitor, ex.monitor.max.res,
    ex.color.palette, sound.support.compat, midi, full.duplex,
    audio.ports, internal.speakers, builtin.mphone, builtin.modem,
    speakerphone, voicemail, flash.upgrade.modem)>
<!ATTLIST audio.video
    %common.attrib;
>

<!ELEMENT display.tech (other | A | B | C )>
<!ATTLIST display.tech
    %common.attrib;
>

<!ELEMENT d.size.set (d.size+)>
<!ATTLIST d.size.set
    %single.choice.attrib;
>

<!ELEMENT d.size (#PCDATA)>
<!ATTLIST d.size
    %single.choice.attrib;
>

<!ELEMENT video.bus.type (other | A | B | C )>
<!ATTLIST video.bus.type
    %common.attrib;
>

<!ELEMENT v.memory.installed (#PCDATA)>
<!ATTLIST v.memory.installed
    %common.attrib;
>

<!ELEMENT v.memory.max (#PCDATA)>
<!ATTLIST v.memory.max
    %common.attrib;
>

<!ELEMENT v.memory.type (other | A | B | C )>
<!ATTLIST v.memory.type
    %common.attrib;
>

<!ELEMENT d.res (other | A | B | C )>
<!ATTLIST d.res
    %common.attrib;

```



```

>

<!ELEMENT color.palette (other | A | B | C )>
<!ATTLIST color.palette
    %common.attrib;
>

<!ELEMENT ex.monitor (other | A | B | C )>
<!ATTLIST ex.monitor
    %common.attrib;
>

<!ELEMENT ex.monitor.max.res (other | A | B | C )>
<!ATTLIST ex.monitor.max.res
    %common.attrib;
>

<!ELEMENT ex.color.palette (other | A | B | C )>
<!ATTLIST ex.color.palette
    %common.attrib;
>

<!ELEMENT sound.support.compat (other | A | B | C )>
<!ATTLIST sound.support.compat
    %common.attrib;
>

<!ELEMENT midi (other | A | B | C )>
<!ATTLIST midi
    %common.attrib;
>

<!ELEMENT full.duplex EMPTY>
<!ATTLIST full.duplex
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT audio.ports (other?, A?, B?, C?)>
<!ATTLIST audio.ports
    %common.attrib;
>

<!ELEMENT internal.speakers (other | A | B | C )>
<!ATTLIST internal.speakers
    %common.attrib;
>

<!ELEMENT builtin.mphone EMPTY>
<!ATTLIST builtin.mphone
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT builtin.modem EMPTY>
<!ATTLIST builtin.modem
    %common.attrib;

```

```

    yesorno (yes|no) #REQUIRED
>

<!ELEMENT speakerphone EMPTY>
<!ATTLIST speakerphone
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT voicemail EMPTY>
<!ATTLIST voicemail
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT flash.upgrade.modem EMPTY>
<!ATTLIST flash.upgrade.modem
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT portex (system.bus.type, pcmcia.slots, cardbus.pccard,
    zv.pccard, pds.slots, ex.scsi.connector, serial.ports,
    inf.serial.ports, parallel.port, extended.parallel.protocols,
    keyboard.mouse.port.type, mouse.port.type, other.port.set)>
<!ATTLIST portex
    %common.attrib;
>

<!ELEMENT system.bus.type (other | A | B | C )>
<!ATTLIST system.bus.type
    %common.attrib;
>

<!ELEMENT pcmcia.slots (other | A | B | C )>
<!ATTLIST pcmcia.slots
    %common.attrib;
>

<!ELEMENT cardbus.pccard EMPTY>
<!ATTLIST cardbus.pccard
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT zv.pccard EMPTY>
<!ATTLIST zv.pccard
    %common.attrib;
    yesorno (yes|no) #REQUIRED
>

<!ELEMENT pds.slots (#PCDATA)>
<!ATTLIST pds.slots
    %common.attrib;
>

<!ELEMENT ex.scsi.connector (other | A | B | C )>

```